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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,236	01/15/2002	Dimitar V. Dimitrov	169.12-0526	6372
164 7590 04/18/2008 KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002				
EXAMINER				
TUGBANG, ANTHONY D				
ART UNIT		PAPER NUMBER		
3729				
MAIL DATE		DELIVERY MODE		
04/18/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/050,236

**Applicant(s)**

DIMITROV ET AL.

**Examiner**

A. Dexter Tugbang

**Art Unit**

3729

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 and 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 9-18 and 22-32 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-8 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 19, 2008 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Garfunkel et al 6,085,406.

Garfunkel discloses a method of forming an MR read comprising: defining a stripe height back edge (e.g. 324 in Fig. 34) of a MR sensor of the MR reader (col. 10, lines 55-60); and subsequently defining a physical reader width (e.g. TW or track width) of the MR sensor, where the physical reader width is defined by a distance between opposite side edges of the MR sensor (Fig. 38, col. 11, lines 22+).

***Claim Rejections - 35 USC § 103***

4. Claims 2 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garfunkel et al in view of Fontana et al 6,609,948.

Garfunkel discloses the claimed manufacturing method as relied upon in Claim 1 above. Garfunkel does not teach that the step of defining the stripe height back edge of the magnetoresistive sensor further comprises: depositing a plurality of sensor layers, selectively patterning a first photoresist layer on the magnetoresistive sensor layers, the first photoresist layer leaving exposed a first region of the magnetoresistive sensor layers; removing the exposed first region of the magnetoresistive sensor layers; and removing the first photoresist layer.

Fontana shows a patterning process that includes depositing magnetoresistive sensor layers (e.g. 206, Fig. 4 and block 300 of Fig. 13), or a stack of sensor layers; selectively patterning a first photoresist layer (e.g. 230, 232) on the magnetoresistive sensor layers (Fig. 11A and 11B), the first photoresist layer leaving exposed a first region of the magnetoresistive sensor layers; removing the exposed first region (e.g. region of layers 206 outside of 230, 232) of the magnetoresistive sensor layers (col. 6, lines 45-60); and removing the first photoresist layer (see Fig. 11C).

It would have obvious to one of ordinary skill in the art at the time the invention was made to have defined the stripe height back edge of Garfunkel by utilizing the patterning process of Fontana, to provide a highly accurate means of defining the stripe height of the magnetoresistive sensor between the stripe height back edge and the ABS.

5. Claims 6 through 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garfunkel et al in view of Shoujii et al 5,722,157.

Garfunkel discloses the claimed manufacturing method as relied upon in Claim 1 above, further including forming current contacts. Garfunkel does not teach that the current contacts are formed by depositing them adjacent opposite edges of the magnetoresistive sensor, depositing a

gap layer on the current contacts and the magnetoresistive sensor; and depositing a top shield on the gap layer.

Shoujii shows a composite head forming process that includes: depositing current contacts (e.g. 30, 31 in Fig. 8D) adjacent opposite edges of the magnetoresistive sensor (e.g. 28); depositing a gap layer (e.g. 32 in Fig. 8E) on the current contacts and the magnetoresistive sensor; and depositing a top shield (e.g. 34 in Fig. 8F) on the gap layer (all of which is discussed at col. 6, lines 53-67). The purpose of the composite head forming process of Shouji allows a magnetic head to be formed with a magnetoresistive sensor and an induction magnetic head so that the overall magnetic head can read information and record information (col. 1, lines 15-21 and col. 6, lines 29-33).

It would have obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Garfunkel by utilizing the composite head forming process of Shouji, to positively form a magnetic head that can both read and record information.

#### ***Response to Arguments***

6. The applicant(s) arguments with respect to Claims 1, 2, 6 through 8 and 21, have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

7. Claims 3 through 5, 9 through 18 and 22 through 32 are allowed.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/A. Dexter Tugbang/  
Primary Examiner  
Art Unit 3729**

April 14, 2008